

## REQUEST FOR ACCESS OF ABANDONED APPLICATION UNDER 37 CFR 1.14(a)

In re Application of

Phillip D. Cook et al

Application Number

07/566,977

Filed

8/13/90

Group Art Unit

Examiner

Assistant Commissioner for Patents  
Washington, DC 20231

Paper No. \_\_\_\_\_

I hereby request access under 37 CFR 1.14(a)(3)(iv) to the application file record of the above-identified ABANDONED application, which is: (CHECK ONE)

☒ (A) referred to in United States Patent Number 5,623,065, column \_\_\_\_\_.☐ (B) referred to in an application that is open to public inspection as set forth in 37 CFR 1.11, i.e., Application No. \_\_\_\_\_, filed \_\_\_\_\_, on page \_\_\_\_\_ of paper number \_\_\_\_\_.☒ (C) an application that claims the benefit of the filing date of an application that is open to public inspection, i.e., Application No. 07/566,977, filed 8/13/90, or☐ (D) an application in which the applicant has filed an authorization to lay open the complete application to the public.

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US005623065A

**United States Patent** [19]

Cook et al.

[11] Patent Number: 5,623,065

[45] Date of Patent: Apr. 22, 1997

[54] **GAPPED 2' MODIFIED OLIGONUCLEOTIDES**[75] Inventors: **Phillip D. Cook**, Vista; **Brett P. Monia**, Carlsbad, both of Calif.[73] Assignee: **Isis Pharmaceuticals, Inc.**, Carlsbad, Calif.

[21] Appl. No.: 244,993

[22] PCT Filed: Dec. 23, 1992

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**Related U.S. Application Data**

[63] Continuation-in-part of Ser. No. 814,961, Dec. 24, 1991, abandoned, and Ser. No. 566,977, Aug. 13, 1990, abandoned.

[51] Int. Cl.<sup>6</sup> ..... C07H 21/00; C07H 21/02; C07H 21/04

[52] U.S. Cl. .... 536/23.1; 536/23.2; 536/23.5; 536/23.51; 536/23.52; 536/23.53; 536/25.1; 536/25.2; 435/91.1; 435/91.2; 435/91.5; 935/6; 935/9; 935/10

[58] Field of Search ..... 514/44; 536/23.1, 536/23.2, 23.5, 23.51, 23.52, 23.53, 25.1, 25.2; 435/91.1, 91.2, 91.4, 91.5; 935/9, 6, 10

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[57] **ABSTRACT**

Oligonucleotides and other macromolecules are provided that have increased nuclease resistance, substituent groups for increasing binding affinity to complementary strand, and subsequences of 2'-deoxy-erythro-pentofuranosyl nucleotides that activate RNase H enzyme. Such oligonucleotides and macromolecules are useful for diagnostics and other research purposes, for modulating protein in organisms, and for the diagnosis, detection and treatment of other conditions susceptible to antisense therapeutics.

19 Claims, 2 Drawing Sheets